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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,612	10/03/2006	Hendrik Dirk Lodewijk Hollmann	NL 040374	1611
24737	7590	06/09/2009	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			NGUYEN, KHAI M	
P.O. BOX 3001			ART UNIT	PAPER NUMBER
BRIARCLIFF MANOR, NY 10510			2819	
MAIL DATE	DELIVERY MODE			
06/09/2009	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/599,612	HOLLMANN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	KHAI M. NGUYEN	2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 October 2006.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9, 11-17 and 19-24 is/are rejected.
- 7) Claim(s) 10 and 18 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 October 2006 is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 23 is rejected under 35 U.S.C 101 because the claimed "encoded signal" is directed to non-statutory subject matter. "Signal" does not fall within at least one of the four categories defined above.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-17, and 19-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong-Lam et al. WO 03/021791 → this reference cited in the ISR and written opinion of the ISA of PCT/IB2005/051097, which is equivalent to USP 6,809,662, hereinafter referred to as D1.

Regarding claims 1, 15, & 22, D1 discloses (Fig. 1) Modulation code system comprising:

- (a) a modulation code encoder (110 of Fig. 1) for coding the original signal (s) into an intermediate signal (t) satisfying predefined first constraints (page 4, line 21-25);
- (b) a transformer encoder (120 of Fig. 1) for converting said intermediate signal (t) in order to generate an encoded signal (c) satisfying a predefined second constraint (page 4, lines 21-25) [:]
- (c) means for supplying the encoded signal (c) to a medium (p. 5, lines 31-32);
- (d) means for retrieving the encoded signal c from said medium (p. 4, line 1);
- (e) a transformer decoder (220 of Fig. 1) for converting the encoded signal (c) so as to obtain said intermediate signal (t) (p. 5, lines 2-3) [:] and
- (f) a modulation code decoder (210 of Fig. 1) for decoding said intermediate signal (t) into said original signal (s → p. 5, lines 3-4).

Furthermore, the modulation code system of D1 has the two following features (see the two paragraphs below):

- (g) the transformer decoder (220) is adapted to convert a signal (outputted from 220) that violates the predefined second constraint into another signal that violates the predefined first constraint,

(h) the transformer decoder (220) has a polynomial function, and the transformer encoder (120) has the inverse polynomial function.

The feature (g) above is necessarily present in the system of D1 can be shown as follows. Feature (e) stipulates that the transformer decoder (220) inverts the operation of the transformer encoder. Assume that feature (g) was missing, i.e., that the transformer decoder converted a signal that violates the second constraint into a signal that meets the first constraint. In this case the transformer decoder would invert the operation of the transformer decoder by converting a signal that meets the first constraint into a signal that violates the second constraint, which would be a contradiction to feature (b).

Feature (h) is apparent from Figs.1-3 of D1. Considering the simplest embodiment of transformer decoder 220 in Fig. 1, i.e. limiting it to two differentiators 220-1 and 220-2 as depicted in Fig.3, it can easily be verified that the transformer decoder will have the polynomial function  $(1 + D^2)$ . Similarly choosing two integrators 120-1 and 120-2 (Fig.2) to implement transformer encoder 120 (Fig.1), one will obtain a transformer encoder with the inverse polynomial function  $1/(1 + D^2)$ .

Regarding claims 2 & 16, D1 discloses the modulation code system as claimed in claim 1, wherein the predefined first constraint is a k-constraint and the predefined second constraint is at least an anti-whistle-constraint (pg. 3. lines 8-10 and pg. 12, lines 1-5).

Regarding claims 3-4, & 17, D1 discloses the modulation code system as claimed in claim 1, wherein the transformer encoder (120 of Fig. 1) is in the form of a linear feedback filter and linear filter, respectively (Figs. 1-3).

Regarding claims 5-6, the recited features are found at lines 31-32 of pg. 4 of D1.

Regarding claim 7, this claim relates to the decoder which is already defined by claim 1, therefore, it is rejected for the same reason above.

Regarding claim 8, D1 discloses the predefined first constraint is a k-constraint and the predefined second constraint is at least an anti-whistle-constraint (pg. 3. lines 8-10 and pg. 12, lines 1-5).

Regarding claim 9, D1 discloses the transformer decoder is in the form of a linear filter (see, Figs. 1-3).

Regarding claims 11 & 19, D1 discloses the decoder (200) according to claim 7, characterized in that the transformer decoder (220) is implemented at least partly in software or hardware (page 3, lines 23-24).

Regarding claims 12 & 20, D1 discloses the decoder (200) according to claim 7, characterized in that the decoder (200) has a modulation code rate close to 1 (page. 3, line 1).

Regarding claims 13 & 21, D1 discloses the decoder (200) according to claim 7, characterized in that the modulation code decoder (210) is a (0,k)-decoder (page 3, lines 26-29).

Regarding claim 14, this claim relates to the decoding method which is already defined by claim 1 and/or claim 7; therefore, it is rejected for the same reason above.

Regarding claims 22 & 23, D1 discloses an encoded signal obtained with the encoding method according to claim 22 → signal c, and a record carrier carrying the encoded signal c (page 4, last two lines).

#### ***Allowable Subject Matter***

5. Claims 10 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record was not seen to disclose the recited transformer decoder as in claim 10 and/or 18.

***Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclose (notes: all references cited on PTO-892 Form attached herewith).

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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